R E P O R T R E S U M E S

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CUES AND CLUES IN THE CREATIVE CLASSROOM.
MICHIGAN ST. BOARD OF EDUCATION, LANSING
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DESCRIPTORS- *CREATIVE THINKING, *CLASSROOM MATERIALS, GRAPHS, *CHARTS, BULLETIN BOARDS, *INSERVICE TEACHER EDUCATION, *INSTRUCTIONAL MATERIALS, MICH. CURRICULUM COM. ON INSTR. MATERIALS

THIS PORTFOLIO CONTAINS A NUMBER OF ILLUSTRATED PLATES, EACH ONE HIGHLIGHTING A SPECIFIC INSTRUCTIONAL MATERIAL. AMONG THE MATERIALS COVERED ARE CHALKBOARDS, BULLETIN BOARDS, GRAPHS, MODELS, AND CHARTS. IT IS FELT THAT THESE DEVICES ENCOURAGE CREATIVE THINKING IN THE CLASSROOM. A COMPANION BIBLIOGRAPHY CALLS ATTENTION TO RELATED MATERIALS. IT IS SUGGESTED THAT THE PLATES AND BIBLIOGRAPHIES BE USED AS AN OUTLINE FOR INSERVICE WORK WITH TEACHERS. (MS)

ED014896

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Cues and Clues in the Creative Classroom

Bulletin
Number
NDEA
312

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1966

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STATE BOARD OF EDUCATION
Department of Education
Lansing, Michigan

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BIBLIOGRAPHIES

The enclosed sheets are numbered 1 to 12 consecutively to correspond with the plates.

Note: Before using this material in an in-service education program we recommend that the "local resources" section of each sheet be completed for most effective results.

STATE BOARD OF EDUCATION

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FOR HELP IN TEACHING CREATIVELY

WE SUGGEST THE FOLLOWING

Barkan, Manuel. Through Art to Creativity, Allyn and Bacon, 1960. $6.95.

Bruner, Jerome S. The Process of Education, Harvard University Press, 1960. $2.75.

Burton, William H. and others. Education for Effective Thinking, Appleton-Century-Crofts, 1960. $6.00.

Lowenfeld, Viktor. Creative and Mental Growth, 3rd ed., Macmillan, 1957. $6.50.

Mearns, Hughes. Creative Power, 2nd rev. ed., Dover, 1958. $1.50.

Wolfe, Don M. Creative Ways to Teach English: Grades 7-12, Odyssey Press, 1958. $4.25.

Zirbes, Laura. Spurs to Creative Teaching, Putman, 1959. $5.75.

Sheet #11

FOR HELP IN LEARNING MORE ABOUT MAKING AND

USING MARIONETTES AND PUPPETS

WE SUGGEST THE FOLLOWING

Specific References

Siks, Geraldine Brain. Creative Dramatics: An Art for Children, text ed., Harper, 1958. $4.50.
Rasmussen, Carrie and Caroline Storck. Fun-Time Puppets, Childrens Press, n.d. $2.50.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar. Audio-Visual in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00.
Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd ed., Harper, 1957. $6.50.

Films and Filmstrips

ABC of Puppet-Making (Bailey Films) two parts, each 10 minutes.
Chinese Shadow Play (China Film Enterprises) 11 minutes.
How to Make a Puppet (Bailey Films) 1953, 12 minutes.
Let's Make Puppets (Library Films) 1953, 10 minutes.
Making and Using Puppets (Encyclopedia Britanica Films) 10 minutes.
Puppetry (Stringed Marionettes) (Encyclopedia Britanica Films) 11 minutes.
Simple Paper Bag Puppets (Capital Production Service) 10 minutes.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

FOR HELP IN LEARNING MORE ABOUT THE CONSTRUCTION AND CARE OF AQUARIUMS AND TERRARIUMS WE SUGGEST THE FOLLOWING

Specific References

Leavitt, Jerome and John Huntsberger. Fun Time Terrariums and Acquariums, Childrens Press, 1961. $2.50.
Turtox. Turtox Service Leaflets, General Biological Supply House, Inc., 8200 S. Hoyne Ave., Chicago 20, Illinois. Request current free catalog.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar. Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd.ed., American Book Co., 1959. $7.00.
Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd ed., Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental source for availability)

Life in an Aquarium (Coronet) 11 minutes.
Life in a Pond (Coronet) 10 minutes.
Making a Balanced Aquarium (Coronet) 10 minutes.
Keeping an Aquarium (Jam Handy) 1948, 70 frames.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

Sheet #9

FOR HELP IN PRODUCING AND USING MODELS

WE SUGGEST THE FOLLOWING

Specific References

Meeks, Martha F. Models for Teaching, Visual Instruction Bureau, University of Texas, Austin, Texas, 1956. $1.00.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.

Dale, Edgar. Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.

Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00,

Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.

Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd.ed., Harper, 1957. $6.50

Films and Filmstrips

Anatomical Models (Denoyer-Geppert) 1949, 15 minutes.
How to Make and Use Dioramas (McGraw-Hill) 1956, 20 minutes.
Make a House Model (Bailey Films) 1948, 10 minutes.
Model Houses, International Film Bureau, 1949, 5½ minutes.
Museum of Science and Industry (American Film Registry) 1946, 18 minutes.
Museums for School Children (United World Films) 1950, 21 minutes.
Relief Models (David Lipscomb College) 1955, 10 minutes.
Diorama as a Teaching Aid (Ohio State Univ.) 1957, 58 frames.
How to Imbed Specimens in Liquid Plastic (Syracuse Univ.) 53 frames.
Making Geographic Models (Ohio State U.) 1957, 58 frames.
Simple Exhibit Technique (Ohio State U.) 1957, 32 frames.

Local References (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

FOR HELP IN PRODUCING AND USING OVERLAYS

WE SUGGEST THE FOLLOWING

Specific References

Hartsell, H. C. and Wilfred Veenandaal. Overhead Projection, Henry Stewart, 1960. $2.95.
Ozalid Corporation. They See What You Mean, Ozalid Division, General Aniline and Film Corp., Johnson City, New York. $3.50.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar. Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart,& Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00.
Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd ed., Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental sources for availability)

Audio-Visual Materials, Slides, Large Drawings and Transparencies, (United World Films) 17 minutes.
Handmade Materials for Projection (Indiana U.) 1955. 20 minutes.
High Contrast Photography for Instruction (Indiana U.) 1956, 21 minutes.
How to Make Handmade Lantern Slides (Indiana U.) 1947, 22 minutes.
Lettering Instructional Materials (Indiana U.) 1955, 20 minutes.
Overhead Projector (Iowa State U.) 1953, 16 minutes.
Photographic Slides for Instruction (Indiana U.) 1956, 10 minutes.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

FOR HELP IN CONSTRUCTING AND USING GRAPHS

WE SUGGEST THE FOLLOWING

Specific References:

Lutz, Rufus R. Graphic Presentation Simplified, Funk, 1949. $5.00.
Schmid, Calvin F. Handbook of Graphic Presentation, Ronald Press, 1954. $6.50.
Spear, Mary Eleanor. Charting Statistics, McGraw-Hill, 1952. $5.75.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar. Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00.
Thomas, R. Murry and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd.ed., Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental sources for availability)

Language of Graphs (Cornnet) 1948, 13 minutes.
Graphs (SVE) 51 frames.
What Is a Graph (Visual Education Consultants, Inc.) 26 frames.
Using Graphs and Charts in Teaching (Basic Skill Films) 51 frames.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

Sheet #6

FOR HELP IN CONSTRUCTING AND USING CHARTS

WE SUGGEST THE FOLLOWING

Specific References

Biegeleisen, J. I. ABC of Lettering, 2nd ed., Harper, 1958. $7.50.
Lutz, Rufus R. Grafic Presentation Simplified, Funk & Wagnalls, 1949. $5.00.
Schmid, Calvin F. Handbook of Graphic Presentation, Ronald Press, 1954. $6.50.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar, Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
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Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd ed., Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental sources for availability)

Lettering Instructional Materials (Indiana U.) 1955, 20 minutes.
Poster-Making: Design and Technique (Bailey Films) 1953, 10 minutes.
Using Visuals in Your Speech (McGraw-Hill) 1960, 13 minutes.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

FOR HELP IN USING THE MAGNETIC BOARD WE

SUGGEST THE FOLLOWING

Specific References

Dent, Charles H. Felt Boards for Teaching, Division of Extension, University of Texas, Austin, Texas, 1955. $1.00
DeJen, Jean. Visual Presentation Handbook. Oravisual Co., Box 11150, St. Petersburg 33, Florida, 1962. $3.50.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar. Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00.
Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd ed., Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental source for availability)

The Feltboard in Teaching (Wayne State Univ.) 1951, 9 minutes.
Flannelboards and How to Use Them (Bailey Films) 1958, 15 minutes.
Flannelgraph (Univ. of Minnesota) 1956, 27 minutes.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

FOR HELP IN CREATIVE USES OF THE FLANNEL BOARD

WE SUGGEST THE FOLLOWING

Specific References

Dent, Charles H. Felt Boards for Teaching, Division of Extension, University of Texas, Austin, Texas, 1955. $1.00.

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Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar. Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00.
Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd. ed. Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental sources for availability)

The Feltboard in Teaching (Wayne State Univ.) 1951, 9 minutes
Flannelboards and How to Use Them (Bailey Films) 1958, 15 minutes.
Flannelgraph (Univ. of Minnesota) 1956, 27 minutes.

Local Resources (We suggest that this secion be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

FOR HELP IN LEARNING MORE ABOUT THE PRINCIPLES OF

ARRANGEMENT AND SPACE WE SUGGEST THE FOLLOWING

Specific References

Bethers, Ray. Composition in Pictures, Pitman, 3rd edition, In press.
East, Marjorie. Display for Learning: Making and Using Visual Materials, Holt, Rinehart & Winston, 1952. $4.95.
Graves, Maitland E. Art of Color and Design, 2nd ed., McGraw-Hill, 1951. $7.95.
Wiggin, Richard G. Composing in Space, Taplinger, 1959. $1.40.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar, Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00.
Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd ed., Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental source for availability)

Design (Bailey Films) 10 minutes.
Elements of Design: Composition (Young America - McGraw-Hill) 1950, 11 minutes.
Elements of Design: Light and Shade (Young America - McGraw-Hill) 1950, 11 minutes.
Elements of Design: Line (Young America - McGraw-Hill) 1949, 11 minutes.
Elements of Design: Shape (Young America - McGraw-Hill) 1950, 11 minutes.
Poster-Making: Design and Technique (Bailey Films) 1953, 10 minutes.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

FOR HELP IN PLANNING AND CONSTRUCTING AN EFFECTIVE

BULLETIN BOARD DISPLAY WE SUGGEST THE FOLLOWING

Specific References

Dent, Charles H., and Ernest Tieman. Bulletin Boards for Teaching, Division of Extension, University of Texas, Austin, Texas, 1955.
East, Marjorie. Display for Learning: Making and Using Visual Materials, Holt, Rinehart, and Winston, 1952. $4.95.
Sadler, Arthur. Paper Sculpture, Pitman, 1955. $4.95.

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar. Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00.
Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd ed., Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental service for availability)

Better Bulletin Boards (Indiana Univ.) 1956, 13 minutes.
Bulletin Boards for Effective Teaching (Iowa State University) 1953, 10 minutes.
Bulletin Boards, and Effective Teaching Device (Bailey Films) 1956, 11 minutes.
Bulletin Boards at Work (Wayne State Univ.) 1950, 42 frames.
How To Keep Your Bulletin Board Alive (Ohio State Univ.) 1950, 32 frames.
Parade of Bulletin Boards (Ohio State Univ.) 1957, 45 frames.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

FOR HELP IN USING THE CHALKBOARD MORE EFFECTIVELY WE

SUGGEST THE FOLLOWING

Specific References

Landon, Leslie. 100 Blackboard Games, Fearon, 1962, $1.00

General References

Brown, J. W. and others. Audio-Visual Instruction: Materials and Methods, McGraw-Hill, 1959. $7.95.
Dale, Edgar. Audio-Visual Methods in Teaching, rev. ed., Holt, Rinehart & Winston, 1954. $8.25.
Kinder, James S. Audio-Visual Materials and Techniques, 2nd ed., American Book Co., 1959. $7.00.
Thomas, R. Murray and Sherwin G. Swartout. Integrated Teaching Materials, Longmans, 1960. $6.75.
Wittich, Walter A. and Charles F. Schuller. Audio-Visual Materials, 2nd ed., Harper, 1957. $6.50.

Films and Filmstrips (Check your local rental source for availability)

Chalk and Chalkboards (Bailey Films) 1959, 15 minutes.
Chalkboard Utilization (Young America - McGraw Hill) 1954, 15 minutes.
Improving the Use of the Chalkboard (Ohio State Univ.) 1956, 44 frames.
Making Your Chalk Teach (Wayne State Univ.) 1951, 47 frames.

Local Resources (We suggest that this section be filled in with locally meaningful information)

Professional Publications:

Sources of Supply:

People Who Can Help:

Permanent Chalk is chalk which has been treated so that it cannot be removed with a dry eraser or cloth. Basically, any soft, porous chalk, either white or colored, when saturated with a strong sugar-water solution, will become permanent to this extent. Since sugar remains soluble in water, a damp cloth will remove the chalk at any time. Obviously, any chalkboard which may not have water used upon it could not be used. We have found that hardboard or non-galvanized sheet metal coated with chalkboard paint a very satisfactory surface upon which to work. Avoid dustless chalk, with its starchlike glazed outer coat,,because we have found that it disintegrates in the sugar solution. The sugar solution is prepared by filling a jar 2/3 full of water and slowly adding sugar until it will not absorb anymore and the sugar begins to settle on the bottom. Immerse the chalk in this solution until all bubbling stops, pour off the water and cap the jar. Permanent chalk must be wet when it is used (it will look transparent when first applied) so keep the damp chalk tightly sealed in the jar at all times.

Colored Chalk can increase the attractiveness of chalkboard presentations, but be sure that you use chalkboard colored chalk, so labeled, and not artists' colored chalk. The dyes in some of the artists' colors indelibly stain the chalkboard and defy even chemical cleaners to remove them.

Pounce Patterns are perforated delineations of all the lines in any full size drawing or design which is to be transferred directly to the chalkboard. They are simply produced by carefully executing the desired art work on relatively thin paper, tracing over each of the lines with a seamstress' pounce wheel, and pouncing a porous cloth bag of precipitated chalk or talcum powder methodically over each line while the paper is secured in position on the chalkboard with masking tape. After removing the paper a light, dotted pattern will remain on the chalkboard and this may be strengthened with a heavy chalk line.

Templates for use on the chalkboard, are oversize, cutout shapes which may be traced around with the chalk stick (externally if it is a positive template and internally if it is a negative template) to quickly duplicate the shape as often as needed. Any relatively thin, hardboard material will work very well. An easily gripped knob on the off-board side of the template will facilitate its use.

EXPLOIT YOUR CHALKBOARD

TRY USING PERMANENT CHALK* FOR GRAPH LINES, MUSIC STAVES, LETTERING GUIDE LINES, SEMI-PERMANENT MAP-OUTLINES.

USE POUNCE PATTERNS* TO REPEAT GEOMETRIC FIGURES AND MAP OUTLINES.

MAKE AND KEEP AT HAND A SET OF STENCILS* OR TEMPLATES* OF MUCH-USED FORMS FOR QUICK REPRODUCTION ON THE CHALKBOARD

AND DON'T FORGET COLORED CHALK*! USE IT OFTEN.

HAVE YOU EVER USED A CHALKLINE* TO MAKE LONG, STRAIGHT LINES ON YOUR CHALKBOARD?

* SEE SHEET 1A FOR DIRECTIONS

Pep-up

- YOUR IDEAS
- YOUR ROOM
- YOUR TEACHING

and - YOUR STUDENTS

with a

BULLETIN BOARD

Keep it

DIRECT

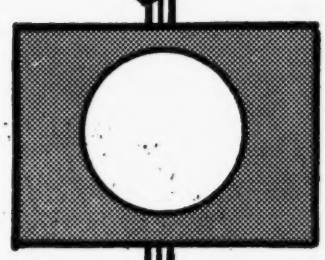
COLORFUL

MEANINGFUL

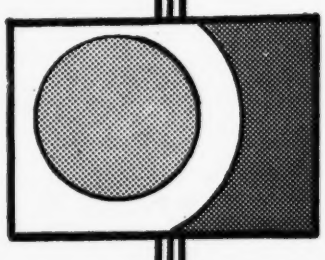
How about helping your students to learn by doing?

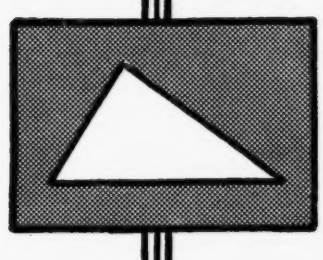
- LET THEM DESIGN AND SET UP A BULLETIN BOARD.

keys to BASIC ARRANGEMENTS AND SPACE DIVISION

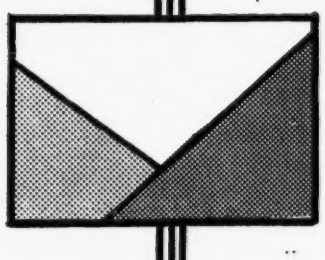


A CIRCULAR ARRANGEMENT MAY BE CENTERED OR MOVED TO ONE SIDE FOR ADDED INTEREST.

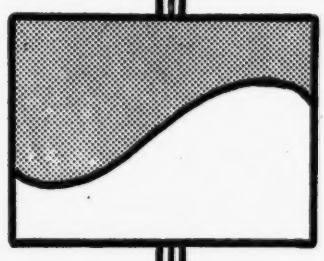


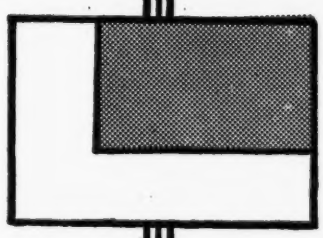


A TRIANGULAR COMPOSITION IS EFFECTIVE WHEN IT IS USED ALONE OR IN COMBINATION.

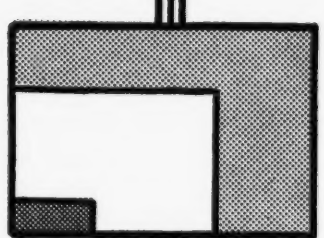


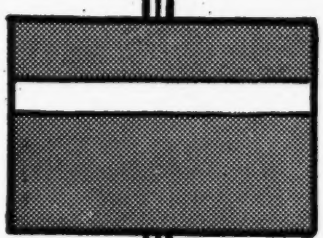
AN "S" TYPE OF GROUPING HAS A SOOTHING QUALITY. INTERESTING VARIATIONS ARE POSSIBLE.



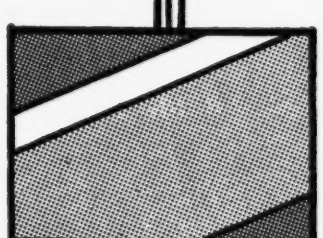


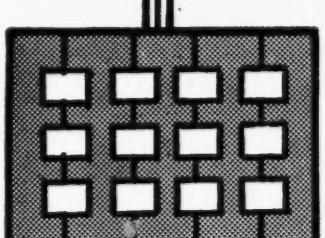
ANOTHER "QUIET" ARRANGEMENT IS BASED ON THE LETTER "L". TRY IT IN REPETITION.



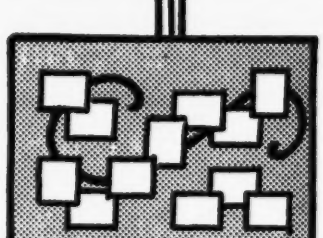


SPACE DIVIDED HORIZONTALLY IS STATIC, BUT THE SAME DIVISION IS DYNAMIC WHEN SLANTED.



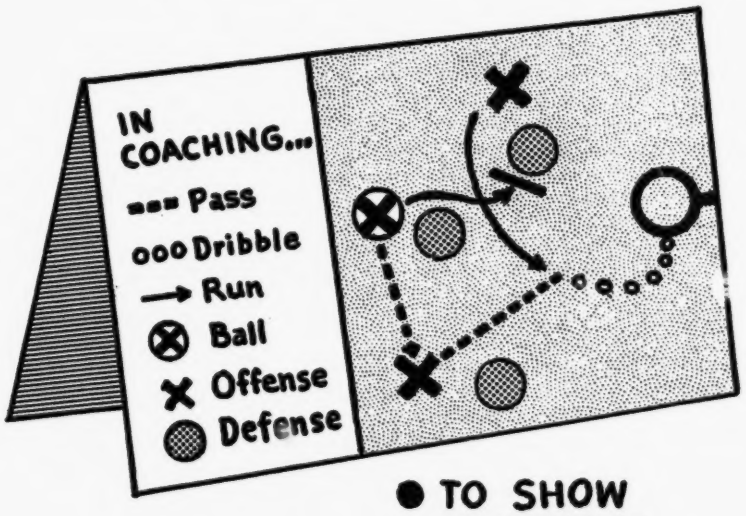


"ALL OVER" ARRANGEMENTS MAY BE REGULAR OR IRREGULAR.

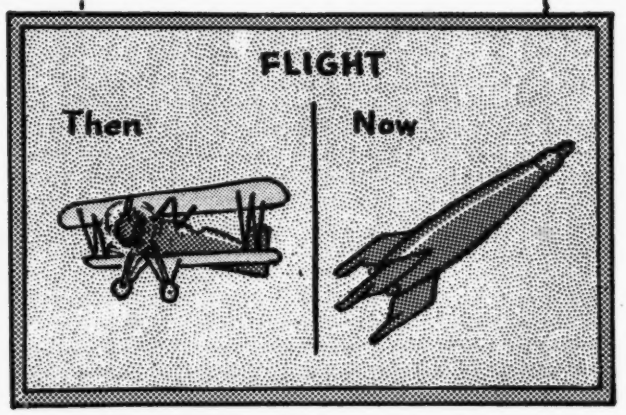


TRY COMBINATIONS

Why use a FLANNEL BOARD ?



● TO SHOW MOVEMENT



● TO INDICATE CHANGE

MAKE IT YOURSELF

ALL YOU NEED IS

- STIFF CARDBOARD
- COAT INTERLINING
- GARNET PAPER
- HEAVY WRAPPING PAPER
- FLOUR AND WATER PASTE (COOKED)

for LARGE BOARDS USE

- PLYWOOD
- WALL BOARD
- PRESS BOARD

OR OTHER MORE SUBSTANTIAL MATERIAL

1. CUT INTERLINING THREE INCHES LARGER THAN MOUNT
2. PASTE INTERLINING TO ONE SIDE OF CARDBOARD
3. TURN OVER EDGES AND MITER CORNERS
4. PASTE WRAPPING PAPER ON BACK TO PREVENT WARPING
5. LET DRY UNDER PRESSURE ON FLAT SURFACE
6. PASTE PIECES OF GARNET PAPER TO BACKS OF CUT-OUTS FOR USE ON FLANNEL BOARD

The MAGNETIC BOARD

Sophisticated Cousin of the Flannel Board

Good

USE A PIECE OF SHEET METAL -- IRON OR STEEL-- WITH OR WITHOUT A FRAME.

Convenient Size: 32"x42"

MAGNETS ARE AVAILABLE IN MANY SIZES, SHAPES, AND COLORS

THEY MAY BE PLACED ON THE CORNERS OF DISPLAY MATERIAL AS SHOWN OR CEMENTED TO THE BACK OF IT.

Better

PAINT

ONE SIDE WITH SEVERAL COATS OF BLACKBOARD PAINT AND USE IT AS A CHALKBOARD AS WELL.

SEE THE SHEETS ON THE FLANNEL BOARD AND THE CHALKBOARD FOR TIPS ON USES.

Still Better

COVER THE OTHER SIDE WITH COAT INTERLINING AND USE IT ALSO AS A FLANNEL BOARD.

THE MAGNETS WILL HOLD ON EITHER SIDE.

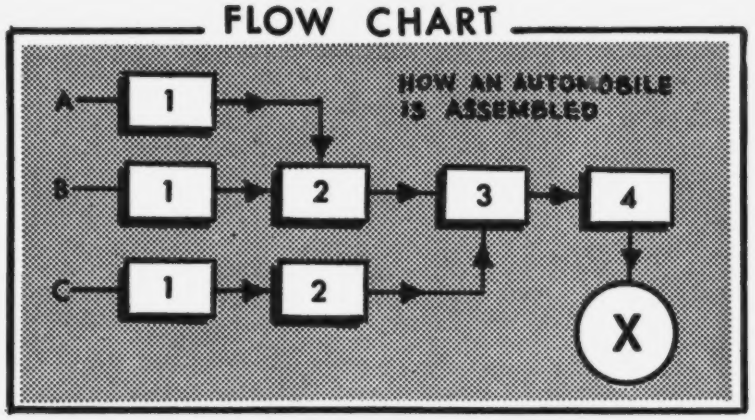
BY THE WAY ! HAVE YOU MET THE NEWEST AND MOST TENACIOUS MEMBER OF THIS FAMILY--

THE HOOK AND LOOP BOARD ?

● PARTICULARLY SUITABLE FOR USE IN THE SCIENCE ROOM. SEE FLANNEL BOARD PLATE FOR SUGGESTIONS.

Have you EXAMINED THE POSSIBILITIES IN USING CHARTS?

FLOW CHART



ADD THE THIRD DIMENSION BY USING SMALL OBJECTS, SUCH AS MATCH BOXES, BUTTONS, ETC.

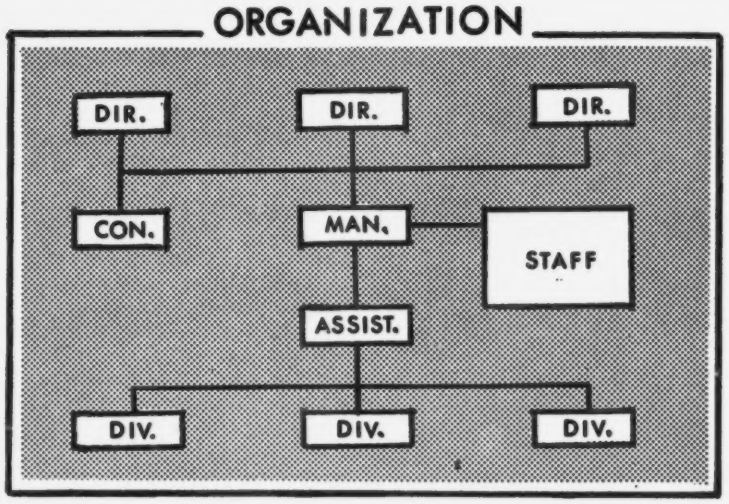
THE EFFECTIVE CHART IS UNCOMPLICATED

- in color
- in style
- in layout
- in content

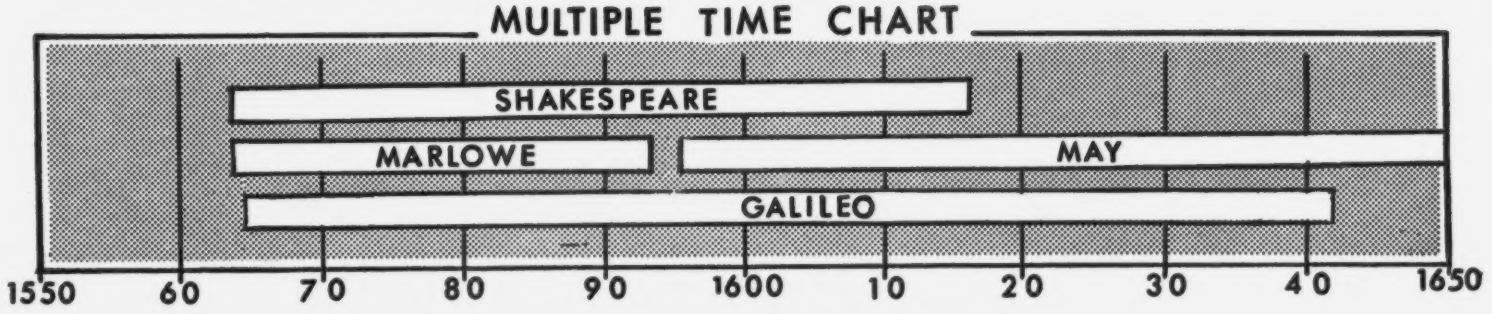
USE CHARTS

- to visualize processes or progression
- to plot trends or relationships in statistics
- to show organization

ORGANIZATION



MULTIPLE TIME CHART

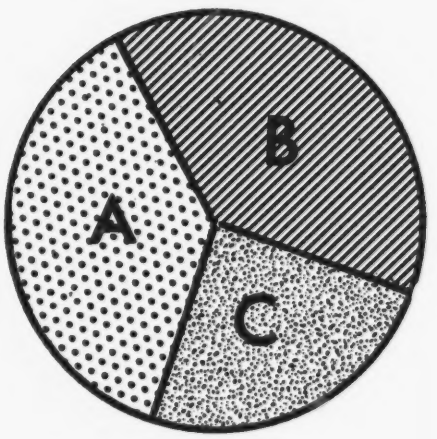


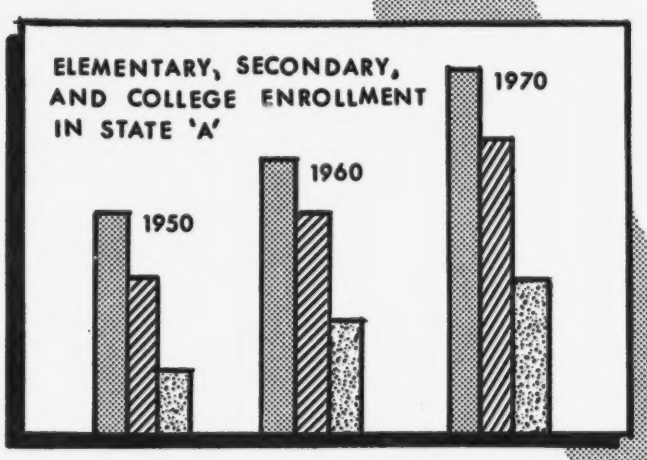
Contemporaries of Galileo

Watch CURRENT NEWS AND TRADE MAGAZINES FOR OTHER TYPES AND USES OF CHARTS.

USE Graphs TO ENLIVEN STATISTICS

USE A CIRCLE OR PIE GRAPH TO SHOW PARTS OF A WHOLE

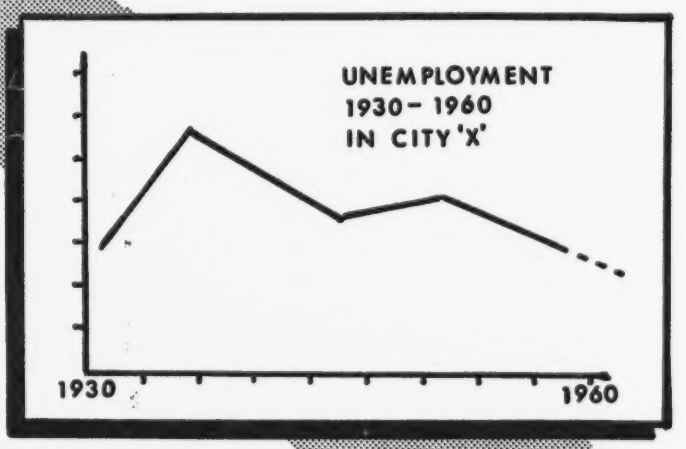


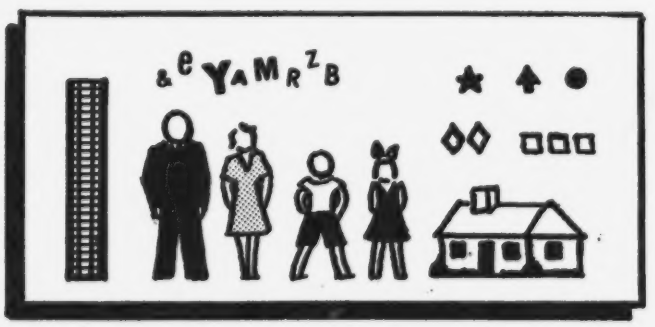


USE A BAR GRAPH

- to make comparisons
- to make predictions

USE A LINE GRAPH TO SHOW CHANGE



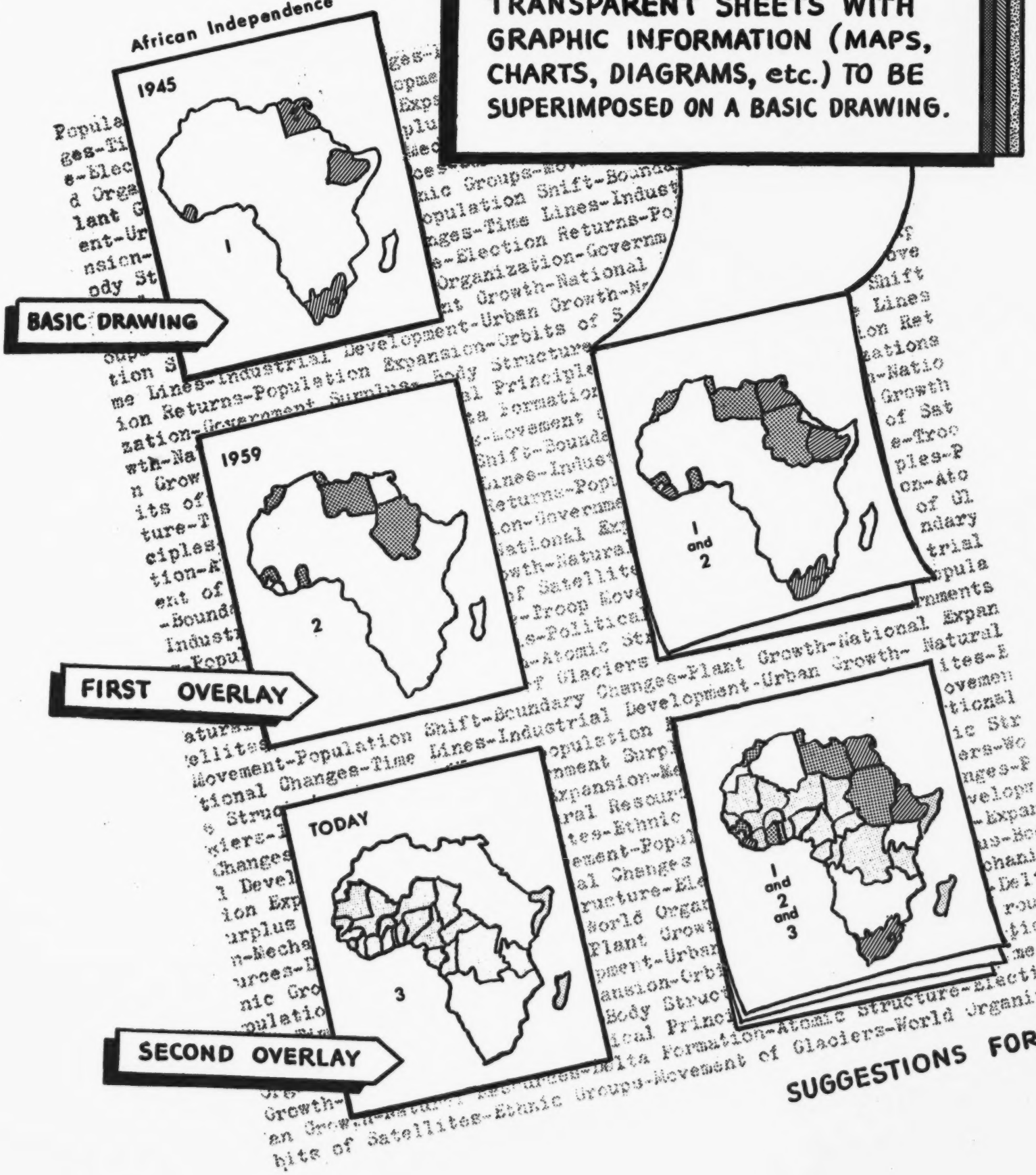


READY MADE SYMBOLS CAN HELP YOUR CHARTS TELL THE STORY BETTER

LOOK FOR IMAGINATIVE USES OF GRAPHS IN BUSINESS PUBLICATIONS AND NEWS MAGAZINES.

DROP FACTS INTO PLACE WITH OVERLAYS

TRANSPARENT SHEETS WITH GRAPHIC INFORMATION (MAPS, CHARTS, DIAGRAMS, etc.) TO BE SUPERIMPOSED ON A BASIC DRAWING.

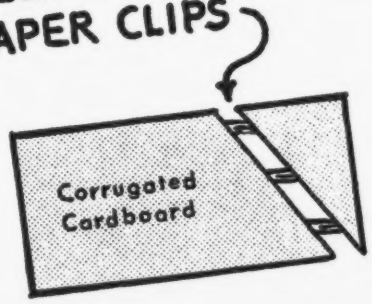


SUGGESTIONS FOR USES OF OVERLAYS

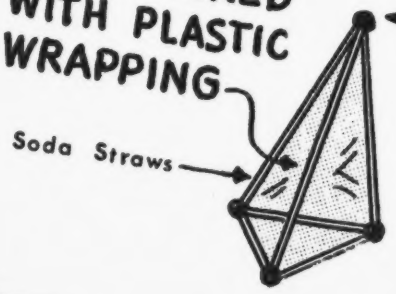
Use MODELS

- TO ADD A THIRD DIMENSION
- TO SHOW HOW THINGS WORK
- TO ILLUSTRATE RELATIONSHIPS
- TO MAKE ABSTRACT IDEAS CONCRETE
- TO REPRESENT IN MANAGEABLE SIZE THAT WHICH IS TOO LARGE OR TOO SMALL

SHOW RELATIONSHIPS OF QUADRILATERALS WITH CORRUGATED CARDBOARD MODELS HELD TOGETHER WITH PAPER CLIPS

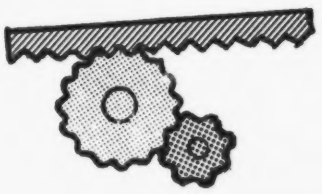


ILLUSTRATE SPACE RELATIONS WITH A MODEL CONSTRUCTED OF SODA STRAWS ANCHORED IN CLAY AND COVERED WITH PLASTIC WRAPPING

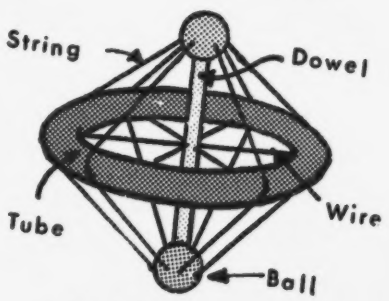


SHOW HOW GEARS WORK IN VARIOUS COMBINATIONS....

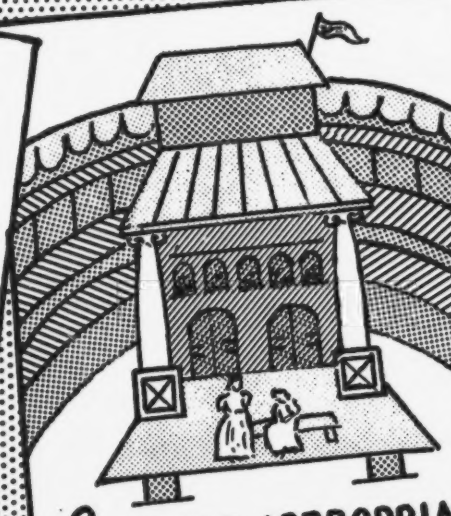
CUT THEM OUT OF CARDBOARD, WOOD, STYROFOAM, OR OTHER MATERIAL



USE COMMON MATERIALS TO GIVE SUBSTANCE TO AN IDEA....

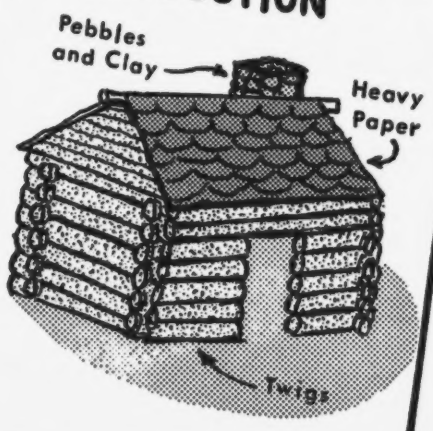


SPACE STATION



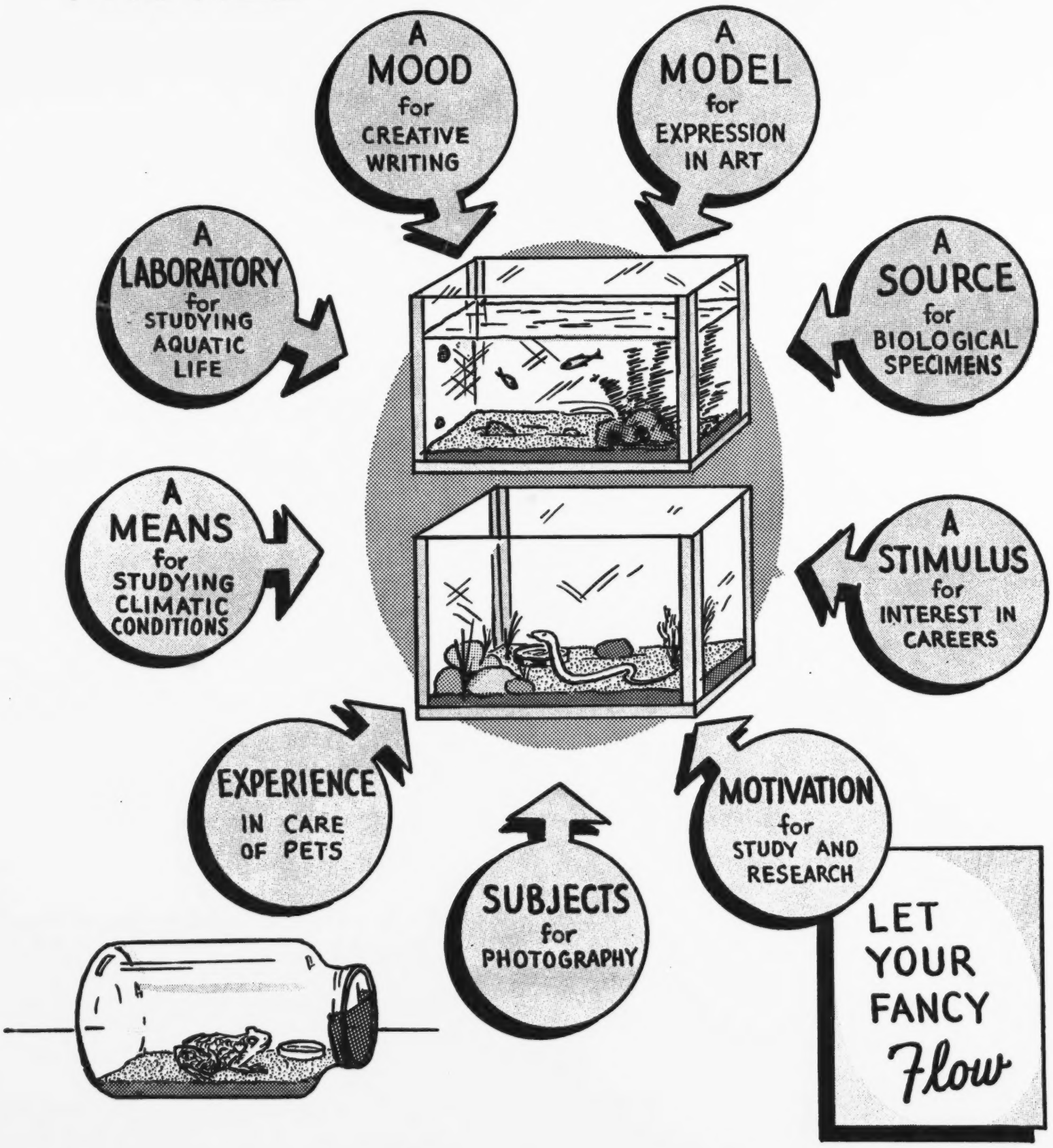
COMBINE APPROPRIATE MODELS IN DIORAMAS TO EXTEND ILLUSION OF REALITY.

BRING HISTORY TO LIFE WITH A SCALED REPRODUCTION

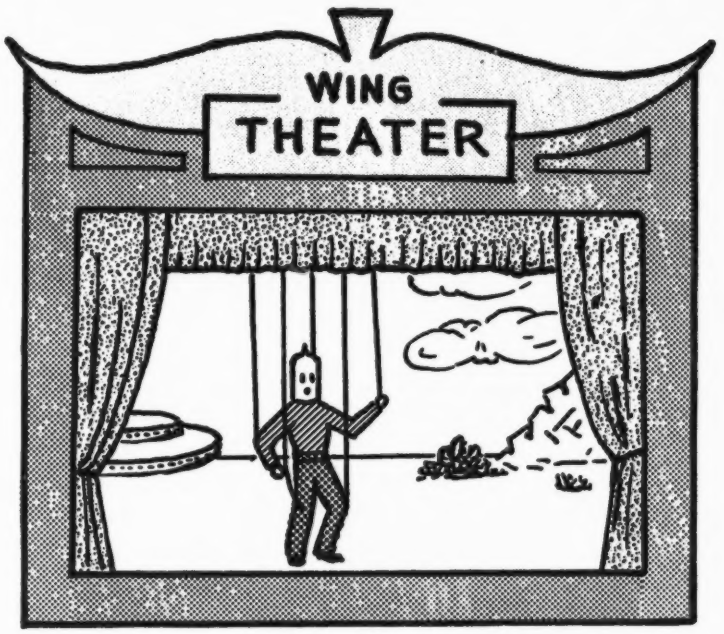


LET *Nature* HELP...

AQUARIA AND TERRARIA CAN PROVIDE


A MOOD for CREATIVE WRITING
A MODEL for EXPRESSION IN ART
A LABORATORY for STUDYING AQUATIC LIFE
A SOURCE for BIOLOGICAL SPECIMENS
A MEANS for STUDYING CLIMATIC CONDITIONS
A STIMULUS for INTEREST IN CAREERS
EXPERIENCE IN CARE OF PETS
SUBJECTS for PHOTOGRAPHY
MOTIVATION for STUDY AND RESEARCH
LET YOUR FANCY Flow

MARIONETTES — WHY?



TO ENCOURAGE USE OF SKILLS

- CREATIVE WRITING
- CRITICAL THINKING
- STAGE CRAFT
- DESIGNING
- SEWING
- SPEAKING
- PERFORMING
- PRODUCING
- LIGHTING
- USING A FOREIGN LANGUAGE

etc.

HOW

- PRODUCE OPERAS USING RECORDED ACCOMPANIMENT
- DRAMATIZE HISTORICAL EVENTS
- PRESENT ORIGINAL PLAYS
- ENACT SOCIO-DRAMAS
- ADAPT FOLK TALES

WHEN

A FRESH AND DIFFERENT APPROACH IS DESIRED....

Consider also

THE POSSIBILITIES OF USING HAND PUPPETS TO PUT ACROSS AN IDEA OR A MESSAGE.

Yours IS THE NEXT MOVE

Into HISTORY

BY RELATING THE PIECES TO THE POLITICAL AND SOCIAL IDEAS OF A CULTURE

Into MATH

BY DEMONSTRATING THE CONCENTRATION AND LOGIC THAT IS NEEDED FOR PROBLEM SOLVING.

Into ART

BY SHOWING AND STUDYING CHANGES IN DESIGN AND COSTUME

Into LANGUAGE ARTS

BY STUDYING ORIGINS OF WORDS AND PHRASES.

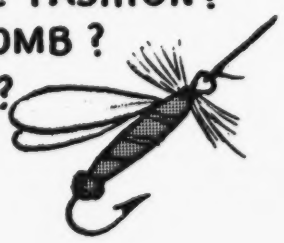
Into INDUSTRIAL ARTS

BY DESIGNING PIECES IN KEEPING WITH MODERN TIMES.

Checkmate!

WHAT OTHER MATERIALS CAN START OFF A UNIT IN SIMILAR DRAMATIC FASHION? A LEAD PENCIL? A POCKET COMB? A BUTTON? A WRIST WATCH?

WHERE CAN A FISH-FLY TAKE YOU?



FOREWORD

One of the most important responsibilities of the classroom teacher is to develop the ability of creative thinking among her students. It is therefore vitally important that every effort be made to use available instructional materials and equipment to their fullest extent in this process.

Under Title III of the National Defense Education Act much attention has been given to the upgrading of instruction in the fields of science, mathematics, and foreign language. With this thought in mind, the Michigan Curriculum Committee on Instructional Materials has devoted two years to the preparation of this publication designed to give new ideas to teachers and to encourage creative thinking at both the teacher and student level. It is hoped that this work will be of great value in in-service education programs and that the teaching profession as a whole will be benefited.

The Committee on Instructional Materials is to be commended for its work in this field.

CUES AND CLUES IN THE CREATIVE CLASSROOM

Classroom teachers recognize that students develop understandings working both independently and in group situations. Students learn from a variety of experiences - the printed, spoken, and projected word. To stimulate students to reach their full potential, the experienced classroom teacher motivates by using a variety of instructional materials. Taken as a whole, instructional materials provide unlimited possibilities for creative teaching. Taken individually, each can help do a particular teaching job better than any other.

The Instructional Materials Committee has recognized for some time the need for presenting suggestions on production and utilization of instructional materials. Secondary teachers particularly need ideas for effective use of instructional materials in helping to develop critical thinking among students.

Cues and Clues in the Creative Classroom will be of special interest to each member of your faculty. For most effective results we suggest that you forward it to whoever has the responsibility for circulating instructional materials in your school district - - - librarian, audio-visual coordinator, or instructional materials specialist. This person can

make available the sources listed on the bibliography and aid teachers in using the ideas. Attractively displayed, each plate will highlight a specific instructional material. In addition, the companion bibliography will call attention to related materials, and may serve as a buying list for future purchase.

It is suggested that one way in which the enclosed plates and bibliographies may serve is as an outline for in-service work with teachers. The material could be:

1) presented by means of an opaque projector

2) duplicated for general distribution

3) posted on the faculty bulletin board or in the library accompanied by a display of sources mentioned

4) made into transparencies for use with an overhead projector

5) discussed individually with workshop time made available for production work

The student who thinks creatively finds many avenues of pleasure and fulfillment open to him. Cues and Clues in the Creative Classroom is an open invitation to you to stimulate creativity!

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